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10/007,583	12/05/2001	Ralf Bertram		3541

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GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER
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SHEER, CRISTINA O

ART UNIT	PAPER NUMBER
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3685

NOTIFICATION DATE	DELIVERY MODE
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07/28/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

### Office Action Summary

**Application No.**

10/007,583

**Applicant(s)**

BERTRAM ET AL.

**Examiner**

CRISTINA OWEN SHERR

**Art Unit**

3685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This communication is in response to Applicant's amendment filed April 29, 2008. Claims 1, 7 and 8 are currently amended. Claims 20-32 have been newly added.

#### ***Response to Arguments***

2. Applicant's arguments filed April 29, 2008 have been fully considered but they are not persuasive with respect to the section 103 rejections of the claims. The section 102 rejections are hereby withdrawn in view of the current amendments.

3. Applicants argue, regarding claim 1, as currently amended, that nothing in the cited reference, discloses, teaches or suggest, "that the similarity factors of the advisee are not calculated with respect to all users for every individual recommendation request."

4. Examiner respectfully disagrees and directs attention to Herz, wherein "Accordingly, like other target objects, users (or user pseudonyms) in accordance with their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object." (col 6 In 34-39). Here, Herz discloses calculating similarity factors only with respect to certain users, when generating a recommendation for a movie or other item.

5. Applicants argue regarding claim 7, that nothing in the cited reference teaches, suggests or discloses updating only the similarity factors between neighboring users and the advisee.

6. Examiner respectfully disagrees and directs attention to Herz, wherein "Accordingly, like other target objects, users (or user pseudonyms) in accordance with their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object." (col 6 ln 34-39). Here, Herz discloses calculating similarity factors only with respect to certain users, when generating a recommendation for a movie or other item, thus it is obvious to one of ordinary skill in the art that users as target objects which are separately browsed, would be separately updated and that such users may be grouped or chosen in different ways including geographic proximity to the advisee.

7. Applicant's argue, regarding claim 8, that nothing in the cited prior art teaches discloses or suggests wherein similarity factors are determined between the advisee and neighboring users only for the items on the selected item list.

8. Examiner respectfully disagrees and directs attention to Herz, wherein "Accordingly, like other target objects, users (or user pseudonyms) in accordance with

their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object." (col 6 ln 34-39). Also, "The information maps so produced and the application of users' target profile interest summaries to predict the information consumption patterns of a user allows for pre-caching of data at locations on the data communication network and at times that minimize the traffic flow in the communication network to thereby efficiently provide the desired information to the user and/or conserve valuable storage space by only storing those target objects (or segments thereof) which are relevant to the user's interests. (col 8 ln 38-48). Thus, it would be obvious to one of ordinary skill in the art that similarity factors are determined between the advisee and neighboring users only for the items on the selected item list.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-19 are rejected under 35 U.S.C. 103(a) as obvious over Herz (US 6,029,195). ).

11. Regarding claims 1,28, 30, 31, 32 –

12. Herz discloses a computerized method for generating a recommendation of an item to an advisee, comprising the steps of:

13. receiving a recommendation request comprising a selected item list from an advisee for a recommendation by a recommendation system; (e.g. col 25 ln 46-62, col 3 ln 1-10); ((note that if a user is requesting a recommendation, the recommendation must somehow be received, and that no one asks for a recommendation in a vacuum, but rather asks for a recommendation on a type or list of items, such as apples, history books, or romantic movies); Also: "For example, a user searching for information on a subject can write a short description of the desired information. The information retrieval computer generates an article profile for the request and then retrieves articles with profiles similar to the profile generated for the request. These requests can then be refined using "relevance feedback", where the user actively or passively rates the articles retrieved as to how close the information contained therein is to what is desired. The information retrieval computer then uses this relevance feedback information to refine the request profile and the process is repeated until the user either finds enough articles or tires of the search." (col 2 ln 66- col 3 ln 10). Clearly, the user is making a request that is received by the information retrieval computer. )  
in response to the recommendation request, computing a plurality of similarity factors based on:

at least one advisee profile from at least one newly rated item and determining which at least one user has already rated the item, wherein the advisee profile comprises a plurality of records, each record including a user identifier, an item identifier, and a rating value, such that each record is linked in a first and a second dimension ((e.g. col 3 ln 7-10, where "computing a plurality of similarity factors" = "generates an article profile for the request"); and

items from the selected item list that indicate similarity between the advisee and a plurality of users of the recommendation system who have previously provided ratings of items from the selected item list ("relevance feedback", where the user actively or passively rates the articles retrieved as to how close the information contained therein is to what is desired. (e.g. col 3 ln 1-3, col 6 ln 38-45));

selecting, from the plurality of users of the recommendation system, neighboring users to the advisee, according to the similarity factors ("similar consumers buy similar products" (e.g. col 12 ln 25-27, col 20 ln 1-22));  
generating a recommendation of at least one item of the selected item list, according to the previously provided ratings of the at least one item by the neighboring users. (e.g. col 70 ln 1-7; col 12 ln 25-27, col 20 ln 1-22);

As above, Herz discloses wherein "Accordingly, like other target objects, users (or user pseudonyms) in accordance with their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity

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between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object." (col 6 ln 34-39). Here, it would be obvious to one of ordinary skill in the art that Herz discloses calculating similarity factors only with respect to certain users, when generating a recommendation for a movie or other item.

14. Regarding claim 2 –

15. Herz discloses the method of claim 1, wherein all items upon which the step of computing depends are included in the selected item list. (e.g. col 16 ln 34-48).

16. Regarding claim 3, 28 –

17. Herz discloses the method of claim 2, wherein the recommendation of at least one item includes only items that are included in the selected item list. (e.g. col 26 ln 22-45).

18. Regarding claim 4 –

19. Herz discloses the method of claim 1, wherein the step of selecting neighboring users excludes any user whose similarity with the advisee is below a predetermined threshold. (e.g. col 88 ln 8 - 37).

20. Regarding claim 5 –

21. Herz discloses the method of claim 1, wherein the step of computing and the step of selecting are executed substantially in parallel by inserting each newly computed similarity factor into a neighbor list in decreasing order of similarity and by limiting length



of the neighbor list by excluding a user with lowest similarity if otherwise the neighbor list would exceed a predetermined length. (e.g. col 18 ln 5-8).

22. Regarding claim 6, 26, 27, –

23. Herz discloses the method of claim 1, further including the step of caching identifiers of the neighboring users, associated similarity factors, and time stamps. (e.g. col 5 ln 55-57). Although Herz does not utilize exactly the same criteria for filtering out users as in the instant case, it is inherent to merely choose different criteria or characteristics as identifiers.

24. Regarding claims 7, 20, 21 –

25. Herz discloses a user profile for a recommendation system, comprising a plurality of records, each record including a user identifier, an item identifier, and a rating value, wherein each record is linked in a first and a second dimension, the first dimension linking records with a same user identifier in a sequence according to the item identifier, and the second dimension linking records with a same item identifier in a sequence according to the user identifier. (e.g. col 39 ln 12-22, col 39 ln 1-11).

26. Note that "Relevant definitions of terms for the purpose of this description include: (a.) an object available for access by the user, which may be either physical or electronic in nature, is termed a "target object", (b.) a digitally represented profile indicating that target object's attributes is termed a "target profile", (c.) the user looking for the target object is termed a "user", (d.) a profile holding that user's attributes, including age/zip code/etc. is termed a "user profile", (e.) a summary of digital profiles of target objects that a user likes and/or dislikes, is termed the "target profile interest

summary" of that user, (f.) a profile consisting of a collection of attributes, such that a user likes target objects whose profiles are similar to this collection of attributes, is termed a "search profile" or in some contexts a "query" or "query profile," (g.) a specific embodiment of the target profile interest summary which comprises a set of search profiles is termed the "search profile set" of a user, (h.) a collection of target objects with similar profiles, is termed a "cluster," (i) an aggregate profile formed by averaging the attributes of all target objects in a cluster, termed a "cluster profile," (j.) a real number determined by calculating the statistical variance of the profiles of all target objects in a cluster, is termed a "cluster variance," (k.) a real number determined by calculating the maximum distance between the profiles of any two target objects in a cluster, is termed a "cluster diameter." (col 4 In 48-col 5 In 5). Further, as above, Herz discloses wherein "Accordingly, like other target objects, users (or user pseudonyms) in accordance with their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object." (col 6 In 34-39). Here, Herz discloses calculating similarity factors only with respect to certain users, when generating a recommendation for a movie or other item, thus it is obvious to one of ordinary skill in the art that users as target objects which are separately browsed,

would be separately updated and that such users may be grouped or chosen in different ways including geographic proximity to the advisee.

27. Regarding claims 8, 24, 29 –

28. Herz discloses a computerized method for generating a recommendation of an item to an advisee, comprising the steps of:

receiving a recommendation request comprising a selected item list from an advisee for the recommendation by a recommendation system (e.g. col 25 ln 46-62, col 3 ln 1-10);

(note that if a user is requesting a recommendation, the recommendation must somehow be received, and that no one asks for a recommendation in a vacuum, but rather asks for a recommendation on a type or list of items, such as apples, history books, or romantic movies);

in response to the recommendation request, computing a plurality of similarity factors based on at least one advisee profile from at least one newly rated item and

determining which at least one user has already rated the item (e.g. col 3 ln 7-10);

selecting a first set of users from a group of users of the recommendation system based on the selected item list (e.g. col 3 ln 1-3, col 6 ln 38-45);

selecting neighboring users from the first set of users based on similarities between the advisee and each member of the first set of users ("similar consumers buy similar products" (e.g. col 12 ln 25-27, col 20 ln 1-22)); and

generating a recommendation of at least one item from the selected item list based on ratings provided by each neighboring user. (e.g. col 70 ln 1-7). (e.g. col 12 ln 25-27, col 20 ln 1-22).

29. Note that ""Relevant definitions of terms for the purpose of this description include: (a.) an object available for access by the user, which may be either physical or electronic in nature, is termed a "target object", (b.) a digitally represented profile indicating that target object's attributes is termed a "target profile", (c.) the user looking for the target object is termed a "user", (d.) a profile holding that user's attributes, including age/zip code/etc. is termed a "user profile", (e.) a summary of digital profiles of target objects that a user likes and/or dislikes, is termed the "target profile interest summary" of that user, (f.) a profile consisting of a collection of attributes, such that a user likes target objects whose profiles are similar to this collection of attributes, is termed a "search profile" or in some contexts a "query" or "query profile," (g.) a specific embodiment of the target profile interest summary which comprises a set of search profiles is termed the "search profile set" of a user, (h.) a collection of target objects with similar profiles, is termed a "cluster," (i.) an aggregate profile formed by averaging the attributes of all target objects in a cluster, termed a "cluster profile," (j.) a real number determined by calculating the statistical variance of the profiles of all target objects in a cluster, is termed a "cluster variance," (k.) a real number determined by calculating the maximum distance between the profiles of any two target objects in a cluster, is termed a "cluster diameter."" (col 4 ln 48-col 5 ln 5).

30. As above, Herz, wherein "Accordingly, like other target objects, users (or user pseudonyms) in accordance with their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in

the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object." (col 6 ln 34-39). Also, "The information maps so produced and the application of users' target profile interest summaries to predict the information consumption patterns of a user allows for pre-caching of data at locations on the data communication network and at times that minimize the traffic flow in the communication network to thereby efficiently provide the desired information to the user and/or conserve valuable storage space by only storing those target objects (or segments thereof) which are relevant to the user's interests. (col 8 ln 38-48). Thus, it would be obvious to one of ordinary skill in the art that similarity factors are determined between the advisee and neighboring users only for the items on the selected item list.

31. Regarding claim 9 –

32. Herz discloses the computerized method of claim 8, wherein the similarities are determined from an advisee profile and user profiles, and the advisee and user profiles are based on advisee and user behavior including at least one of buying pattern, item ratings, bookmarked websites, website usage pattern, and user action relative to a particular item. ("similar consumers buy similar products" (e.g. col 12 ln 25-27, col 20 ln 1-22));

33. Regarding claim 10 –

34. Herz discloses the computerized method of claim 9, wherein an advisee profile or a user profile is updated when a new piece of information is added thereto. (e.g. col 6 ln 15-25).

35. Regarding claim 11 –

36. Herz discloses the computerized method of claim 8, further comprising assigning a confidence factor to each advisee profile and each user profile, wherein the confidence factor is based on the combined effect of selected pieces of information recorded in a user or advisee profile. (e.g. col 30 ln 20-35).

37. Regarding claim 12 –

38. Herz discloses the computerized method of claim 8, further including determining similarities between the advisee and each member of the first set of users after receiving a selected item list from the advisee. (e.g. col 6 ln 38-45).

39. Regarding claim 13, 22, 23 –

40. Herz discloses the computerized method of claim 8, wherein a member of the first set of users is selected as a neighboring user if the similarity between the advisee and the member of the first set of users is better than a predetermined threshold. (e.g. col 6 ln 38-45, col 18 ln 1-10).

41. Regarding claim 14 –

42. Herz discloses the computerized method of claim 8, further comprising assigning a weight to each neighboring user where the weight is greater for a neighboring user have greater similarity to the advisee and the weight is lower for a neighboring user having a lower similarity to the advisee. (e.g. col 22 ln 15-30).

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43. Regarding claim 15 –

44. Herz discloses the method of claim 1, further comprising updating the selected neighboring users each time a new rating is entered or inferred during the recommendation request. (col 66 ln 1-25).

45. Regarding claim 16 –

46. Herz discloses the system of claim 7, wherein the system updates selected neighboring users each time a new rating is entered or inferred during a recommendation request. (col 66 ln 1-25).

47. Regarding claim 17 –

48. Herz discloses the method of claim 8, further comprising updating the selected neighboring users each time a new rating is entered or inferred during the recommendation request. (col 66 ln 1-25).

49. Regarding claim 18 –

50. Herz discloses the method of claim 1, wherein the selected neighboring users are users who have a similarity factor which is better than a predetermined threshold value. (e.g. col 6 ln 38-45, col 18 ln 1-10).

51. Regarding claim 19 –

52. Herz discloses the method of claim 8, wherein the selected neighboring users are users who have a similarity factor which is better than a predetermined threshold value. (e.g. col 6 ln 38-45, col 18 ln 1-10).

53. Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified

citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may be applied as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention as well as the context of the passage as taught by the prior art or disclosed by the examiner.

### ***Conclusion***

54. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
55. Linden et al (US 6,266,649) disclose collaborative recommendations using item-to-item similarity mappings.
56. Smith et al (US 6,853,982) discloses content personalization based on actions performed during a current browsing session.
57. Petra et al (US 2004/0205065) discloses a system for creating and maintaining a database of information utilizing user opinions.
58. Linden et al (US 6,912,505) discloses use of product viewing histories of users to identify related products.
59. Petras et al (US 2001/0047290) discloses a system for creating and maintaining a database of information utilizing user opinions.



60. Amazon.com catapults electronic commerce to next level with powerful new features (Amazon News release, Sept. 23, 1997).

61. Epinions.com buying guide.

62. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

63. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

64. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRISTINA OWEN SHERR whose telephone number is (571)272-6711. The examiner can normally be reached on 8:30-5:00 Monday through Friday.

65. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Calvin L. Hewitt, II can be reached on (571)272-6709. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

66. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cristina Owen Sherr, AU 3685

/Calvin L Hewitt II/

Supervisory Patent Examiner, Art Unit 3685